

## REMARKS

This paper is responsive to the non-final Office Action mailed July 23, 2009. Claims 1-4 and 13-27 are pending in the application. Claims 4, 15, 18, 21, 24, and 27 have been withdrawn from consideration as directed to a non-elected species. Claims 1-3, 13, 14, 16, 17, 19, 20, 22, 23, 25, and 26 stand rejected. Claims 1, 3, 25, and 26 have been amended. Claims 5-18 have been canceled. Claims 28-31 have been added. Reconsideration and allowance of Claims 1-3, 19, 20, 22, 23, 25, 26, and 28-31 are requested in view of the above amendments and the following remarks.

### The Claimed Invention

The claimed invention recites thermistor devices, each having a common feature: the use of vanadium oxides  $(V_{(1-x)}M_x)_2O_3$  (M represents Cr or Ti,  $0 \leq x \leq 0.2$ ) as a first substance in the devices. Examples 1-2 of the application describe exemplary devices that use vanadium oxides  $(V_{(1-x)}M_x)_2O_3$  (M represents Cr or Ti,  $0 \leq x \leq 0.2$ ) as a first substance. All independent claims recite the vanadium oxide genus as a first substance.

### The Rejection of Claims 1 and 19 Under 35 U.S.C. § 102(e)

Claims 1 and 19 stand rejected under 35 U.S.C. § 102(e) as being anticipated by Casey et al. (U.S. Patent Application Publication No. 2005/0151213). Withdrawal of this ground for rejection is respectfully requested for the following reasons.

Applicants assert that Casey et al. does not teach every limitation of the claimed invention. Particularly, Casey et al. does not teach that the first substance of the thermistor device is a vanadium oxide of the recited genus.

The Examiner relies on Casey et al. as teaching a thermistor device having a first substance having a positive or negative temperature coefficient resistance and a second layer comprising a second substance having conductivity or semiconductivity located directly on the

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first layer. The Examiner notes that Casey et al. teaches that the second substance is selected from the group consisting of n-type semiconductive oxides or p type semiconductive oxides.

Claims 1 and 19, as amended, recite the first substance as being a genus of vanadium oxides, none of which are taught, or suggested, by Casey et al.

Because every aspect of the claimed invention is not taught by Casey et al., withdrawal of this ground for rejection is respectfully requested.

The Rejection of Claims 2, 3, 13, 14, 16, and 17 Under 35 U.S.C. § 103(a)

Claims 2, 3, 13, 14, 16, and 17 stand rejected under 35 U.S.C. § 103(a) as being unpatentable over Casey et al. and further in view of Li et al. (U.S. Patent No. 6,337,991). Withdrawal of this ground for rejection is respectfully requested for the following reasons.

Applicants assert that Casey et al. and Li et al. do not teach, suggest, or otherwise make obvious every limitation of the claimed invention. Particularly, the recitation that the first substance of the thermistor is a vanadium oxide of the claimed genus is not taught by the combined references.

Casey et al. is relied on by the Examiner as discussed above. However, the Examiner notes that several recitations of the claimed invention are not specifically taught by Casey et al. Li et al. is relied on as curing these deficiencies of Casey et al.

Applicants particularly note that the recitation regarding the use of vanadium oxides as the first substance in the thermistors was originally presented in examined Claim 16 (depending from Claim 1) and Claim 17 (depending from Claim 3). However, Claims 16 and 17 recited, in addition to the vanadium oxides, nickel compounds, manganese oxides, and bisethylenedithio-tetrathiafluvalene salts. The recitation from Claims 16 and 17 that the first substance is a vanadium oxide from a specific genus has been incorporated into all pending claims, and

Claims 16 and 17 are now canceled. The additional recitations of Claims 16 and 17 (e.g., the nickel and manganese compounds) have not been added to the pending independent claims.

In rejecting Claims 16 and 17, the Examiner relies on Li et al. as teaching that the first substance is a manganese oxide. The Examiner did not note that Li et al. teaches that the first substance is a vanadium oxide of the recited genus. Applicants assert that Li et al. does not teach the claimed vanadium oxides for use as a first substance in a thermistor, nor does the reference suggest or otherwise make obvious such uses.

Because the combined teachings of Casey et al. and Li et al. do not teach, suggest, or otherwise make obvious every aspect of the claimed invention, withdrawal of this ground for rejection is respectfully requested.

The Rejection of Claims 22 and 23 Under 35 U.S.C. § 103(a)

Claims 22 and 23 stand rejected under 35 U.S.C. § 103(a) as being unpatentable over Casey et al. Withdrawal of this ground for rejection is respectfully requested for the reasons described above with regard to the § 102(e) and § 103(a) rejections in view of Casey et al. Particularly, all pending claims recite the use of a genus of vanadium oxide compounds as the first substance in a thermistor. Casey et al. does not teach, suggest, or otherwise make obvious this recitation and withdrawal of this ground for rejection is respectfully requested.

The Rejection of Claims 25 and 26 Under 35 U.S.C. § 103(a)

Claims 25 and 26 stand rejected under 35 U.S.C. § 103(a) as being unpatentable over Casey et al. and further in view of Iwatani et al. (U.S. Patent Application Publication No. 2005/0231174). Withdrawal of this ground for rejection is respectfully requested for the following reasons.

As described above, Casey et al. does not teach the recitation that the first substance of the thermistor is a vanadium oxide. Claims 25 and 26 include such a recitation. Iwatani et al.

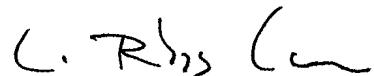
does not cure the above-cited deficiencies of Casey et al. with regard to the recited use of vanadium oxides. Thus, applicants assert that the combined teachings of Casey et al. and Iwatani et al. do not teach, suggest, or otherwise make obvious every aspect of the claimed invention. Withdrawal of this ground for rejection is respectfully requested.

CONCLUSION

Applicants believe that Claims 1-3, 19, 20, 22, 23, 25, 26, and 28-31 are in condition for allowance. If any issues remain that may be expeditiously addressed in a telephone interview, the Examiner is encouraged to call the undersigned attorney at 206.695.1698.

Respectfully submitted,

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